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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/446,144 03/02/00 RUBBIA

C P5634

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PM92/0814

EXAMINER

KEITH, J

ART UNIT

PAPER NUMBER

3641

DATE MAILED:

08/14/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/446,144

Applicant(s)

Rubbla

Examiner

Jack Keith

Art Unit

3641

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Mar 2, 2000

2a) ☐ This action is **FINAL**.

2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-48 is/are pending in the applica

4a) Of the above, claim(s) _____ is/are withdrawn from considera

5) ☐ Claim(s) _____ is/are allowed.

6) ☐ Claim(s) _____ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☒ Claims 1-48 are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

20) ☐ Other:

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DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

- 7, 23, 111
- I. Embodiment wherein the diffusing medium is lead only.
 - II. Embodiment wherein the diffusing medium is bismuth only.
 - III. Embodiment wherein the diffusing medium is lead and bismuth.

2. Upon election of Species I, II or III, the applicant is further required to elect one of the following disclosed species. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

- 6, 21, 22
- A. Embodiment wherein the moderator is carbon.
 - B. Embodiment wherein the moderator is deuterated water.
 - C. Embodiment wherein the no moderator is present.

3. Upon election of Species A, B or C, the applicant is further required to elect one of the following disclosed species. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

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The species are as follows:

8, 9, 10, 24-26 a. Embodiment wherein the neutron source is a lithium only target bombarded by a charged particle beam.

8, 9, 10, 24-26 b. Embodiment wherein the neutron source is a bismuth only target bombarded by a charged particle beam.

8, 9, 10, 24-26 c. Embodiment wherein the neutron source is a lithium and bismuth target bombarded by a charged particle beam.

11, 27 // d. Embodiment wherein the neutron source is a radioactive source such as Am-Be or Cf²⁵².

8 → 12, 28 e. Embodiment wherein the neutron source is a lead only spallation target bombarded by a charged particle beam.

12, 28 f. Embodiment wherein the neutron source is a bismuth only spallation target bombarded by a charged particle beam.

12, 28 g. Embodiment wherein the neutron source is a lead and bismuth spallation target bombarded by a charged particle beam.

14 h. Embodiment wherein the neutron source is from the core of a critical fast breeder reactor.

14, 15, 16 46-48 i. Embodiment wherein the neutron source is an energy amplifier core consisting of a lead only spallation target and nuclear fuel material only.

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14-16 46-48 j. Embodiment wherein the neutron source is an energy amplifier core consisting of a bismuth only spallation target and nuclear fuel material only.

14-16 46-48 k. Embodiment wherein the neutron source is an energy amplifier core consisting of a lead and bismuth spallation target and nuclear fuel material only.

14-16 46-48 l. Embodiment wherein the neutron source is an energy amplifier core consisting of a lead only spallation target and nuclear fuel material further including actinides to be disposed.

14-16 46-48 m. Embodiment wherein the neutron source is an energy amplifier core consisting of a bismuth only spallation target and nuclear fuel material nuclear fuel material further including actinides to be disposed.

14-16 46-48 n. Embodiment wherein the neutron source is an energy amplifier core consisting of a lead and bismuth spallation target and nuclear fuel material nuclear fuel material further including actinides to be disposed.

4. Upon election of one of species a through n, the applicant is further required to elect one of the following disclosed species. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

29,30,43 AA. Embodiment wherein the exposed material is I¹²⁷.

31,32 BB. Embodiment wherein the exposed material is Mo⁹⁸.

33,34 CC. Embodiment wherein the exposed material is Te¹³⁰.

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- 36 DD. Embodiment wherein the exposed material is Xe¹²⁴.
- 27, 38 EE. Embodiment wherein the exposed material is Si³⁰.
- 37, 39 FF. Embodiment wherein the exposed material is Ge⁷⁰.
- 42 GG. Embodiment wherein the exposed material is Tc⁹⁹.
- 43 HH. Embodiment wherein the exposed material is I¹²⁹.
- JJ. Embodiment wherein the exposed material is Zr⁹³.
- KK. Embodiment wherein the exposed material is Cs¹³⁵.
- LL. Embodiment wherein the exposed material is Sn¹²⁶.
- 47 MM. Embodiment wherein the exposed material is Se⁷⁹.
- Long Lived
(Spec # 15)*

5. Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

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6. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: In the present case, there is no common "special technical feature" because the general inventive concept as set forth in the claims does not define over the prior art (See search report PCT/EP97/03218).

7. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

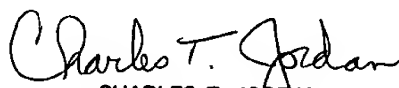
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Keith whose telephone number is (703) 306-5752. The examiner can normally be reached on Monday through Friday from 7:00 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

jwk

August 13, 2001


CHARLES T. JORDAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600